

Amendment to the Drawings:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1. In Fig. 1, the element 29 has been added.

Attachment: Replacement Sheet
 Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

Claims 1-5 and 7-15 are pending in the present application. Claims 6 and 7 have been cancelled and claims 16-20 have been added. Claim 1 was objected to because of an informality and applicant asserts that an amendment to claim 1 has corrected this informality. Claims 7 and 8 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 1 has been amended and claim 7 has been cancelled and this rejection is considered overcome. Claims 1, 3, 5 and 9-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nippert (US Publication No. 2003/0110935) in view of Hare, Sr. (USPN 5,158,109) and further in view of Moutafis et al. (US Publication No. 2002/0176788). Claims 1, 2 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nippert in view of Wassell (US Publication No. 2002/0011358) and further in view of Moutafis. Applicant respectfully disagrees with the examiner's conclusion and requests all pending claims be found allowable subject matter.

Independent claim 1 has been rejected under 35 U.S.C. § 103 as being unpatentable over Nippert in view of Hare, Sr. and further in view of Moutafis and additionally has been rejected under 103(a) as being unpatentable over Nippert in view of Wassell and further in view of Moutafis. Applicant asserts that both rejections are overcome because a combination of these prior art references would not result in the positive displacement piston of amended claim 1. Specifically, claim 1 has been amended to require "an inlet fluidly connecting the radial bore to the first electro-energized field generating element wherein fluid from the radial bore flows directly into the inlet." The amendment to claim 1 gains proper antecedent basis from original Fig. 1 that shows this arrangement. Though

applicant asserts that because the figures are part of written description that the amendment has proper support in the written description, applicant has additionally added a paragraph to the specification describing the radial bore for convenience. Similarly, the radial bore has been provided a numeral in the figures. Because applicant is merely describing what is shown in Fig. 1 applicant asserts that no new matter has been added and requests that the amendments to the figures, specification and claims be entered.

Nippert does not teach this arrangement and instead Nippert teaches inlet/outlet ports 52, 54 each having valving arrangements 50 that are electrically controlled such that flow can be disposed therethrough. (See [0035] and Fig. 4). Specifically, in Nippert the pistons 46 prevent any type of fluid communication between the inlets/outlets 52, 54 and what would be considered the radial bore surrounding cam surface 70. Thus, Nippert does not teach an inlet that fluidly connects the radial bore to a valve element such that fluid flows directly from the radial bore to the inlet. Thus, Nippert does not teach this limitation.

Similarly, the Hare, Sr., Wassell and Moutafis references do not cure Nippert. Specifically, the Hare, Sr. and Wassell references were used to provide the use of rheological fluid and thus have not been used to teach the structural makeup of the positive displacement piston unit. Similarly, the Moutafis reference is used to teach that pistons arranged in axial configuration is common in the art. This limitation has been eliminated from claim 1 and thus the need for Moutafis by the examiner is moot. Consequently, applicant asserts that a combination of the references cited will not result in an inlet fluidly connecting the radial bore to the first electro-

energized field generating element wherein the fluid from the radial bore flows directly into the inlet. As a result the rejections to claim 1 under 35 U.S.C. § 103(a) are overcome. Claims 2-5 and 8-15 depend on claim 1 and for at least this reason applicant asserts these claims are also in allowable form. Thus, applicant respectfully requests that all rejections to claims 2-5 and 8-15 be withdrawn.

Claim 16-20 have additionally been added to the application. Independent claim 16 is nearly identical to independent claim 1 of the previous office action with limitations added regarding a channel that is formed between an electro-magnet and a housing that is in fluid communication with an inlet and a valve outlet. Additionally described is that when the electromagnet is energized it creates a magnetic field across the channel to solidify the rheological fluid to prevent the movement of fluid through the channel. These limitations gain proper antecedent basis from the specification at page 5, lines 13-32.

Applicant asserts that new independent 16 is allowable subject matter because none of the prior art references teach a first electro-energized field generating element that has a channel formed between an electromagnet and a housing and that is in fluid communication with an inlet and an outlet such that when the electromagnet is energized it creates a magnetic field across the channel to solidify the rheological fluid to prevent movement of the fluid through the channel. Specifically, the Nippert reference and the Moutafis reference were not used to provide the first electro-energized field generating element and applicant asserts that the examiner has not asserted that these references contain such devices.

The examiner has used the Hare, Sr. and Wassell references as teaching the first electro-energized field generating elements. Applicant asserts that the devices of Hare, Sr. and Wassell do not teach a device that has a channel formed between an electromagnet and a housing in fluid communication with an inlet and an outlet such that energizing the electromagnet creates a magnetic field across the channel to solidify the rheological fluid to prevent movement of fluid through the channel. Hare, Sr. instead teaches several embodiments wherein a valve 10 that contains an electro-rheological fluid therein. (Col. 4, lines 20-22). Hare, Sr. additionally teaches an arm member 20 that extends into the center of the valve 10 and into cavity 22 that has electro wires 34 and 34A. (Col. 4, lines 23-30). Additionally, within the cavity 22 is a perforated electrode 36 that is immersed with the electro-rheological fluid 24 in cavity 22. (Col. 4, lines 34-48). The cavity does not appear to have an inlet, an outlet or provide a channel between an electromagnet and a housing. Consequently, the Hare reference does not meet the limitations of new independent claim 16.

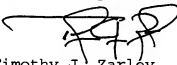
Similarly, Wassell does not meet the limitations regarding the first electro-energized field generating element. Instead, Wassell teaches a valve 70 that supplies rheological fluid to a bank of pistons that contains a core 92 comprised of windings 99 that are wrapped around a core body 91 and is made of magnetic material so as to form an electromagnet. (See [0040]). Specifically, rheological fluid flows into an annular passage 94 of the valve that is located between the windings 99 and the core body 91 and consequently flows within the electromagnet. ([0040]). There is no teaching or indication in Wassell that a channel is formed between the electromagnet and a housing

wherein the rheological fluid flows therein. Hence, Wassell does not meet the limitations of independent claim 16. Consequently, applicant asserts that independent claim 16 contains allowable subject matter and respectfully requests allowance thereof. Dependent claims 17-20 depend on claim 16 and for at least this reason applicant also considers them in allowable form. Thus, applicant respectfully requests allowance of all pending claims.

CONCLUSION

If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone the undersigned at 515/558-0200. All fees or extensions of time believed to be due in connection with this response are attached hereto; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account 50-2098.

Respectfully submitted,



Timothy J. Zarley
Reg. No. 45,253
ZARLEY LAW FIRM, P.L.C
Capital Square
400 Locust Street, Suite 200
Des Moines, IA 50309-2350
Phone No. (515) 558-0200
Fax No. (515) 558-7790
Customer No. 34082
Attorneys of Record

- JLH/bjs -